atomizer, comprising a common rail fuel injection system, 10, combined with a contactor chamber, 9, wherein a portion of a slurry fuel is contacted with soluble atomizing gas.

Another example form of this invention is shown schematically in Figure 2, wherein undissolved portions of the atomizing gas are discharged from the top of the contactor chamber, 9, via an exit gas flow restrictor, 33.

The example form of this invention, shown schematically in Figure 3, utilizes engine exhaust gas as the atomizing gas.

The example form of this invention, shown schematically in Figure 4, uses air as atomizing gas, and recovers some of the work of gas compression by use of a work recovery engine, 49.

In the Figure 5 form of this invention the undivided entire flow of slurry fuel is contacted with soluble atomizing gas in the contactor chamber, 54.

The supplementary atomizing capacity of several illustrative atomizing gases is shown graphically in Figure 6 as a function of contactor chamber pressure.

The engine work output lost to the compressing of the atomizing gas is shown graphically in Figure 7, for several atomizing gases, as a function of supplementary atomizing capacity.

An example form of fuel injector nozzle, with double valves in the fuel flow passage, is shown schematically in Figure 8.

Examples of slurry fuel flow dividers are illustrated schematically in Figure 9 and Figure 10.

None of the schematic apparatus drawings are to scale.